

13 August 1962

MEMORANDUM FOR THE RECORD

SUBJECT: RCA 501/IBM 1401 System for the Comptroller

Since I learned of ADPD's plans to re-evaluate the use of the IBM 1401 as an input/output system for the RCA 501 Computer, I have reviewed the records which set forth the reasons and justifications leading up to the decision to install 1401 equipment. The written record may be summarized as follows:

Tab A - Letter from IBM to ADPD dtd Sept. 29, 1961.

This letter presented the IBM proposal for a complete IBM 1401 data processing system. The system was to have 8,000 positions of core storage, four 7330 tape units, a 1404 printer, and a Foreign Tape Adapter to make communications with the 501 possible. The total rental was \$8,460. The proposal also recommended elimination of considerable EAM equipment to the point where only key punches and verifiers, one interpreter, sorter, collator and reproducer would remain.

Tab B - Memo from ADPD to the Comptroller dtd Dec. 20, 1961.

This memo recommends acceptance of the IBM proposal. Among the reasons given for this recommendation were:

1. Existing I/O equipment for the 501 was unsatisfactory from a mechanical standpoint.
2. Approximately \$5,700 per year could be saved in paper costs thru the use of the 1404 printer.
3. There was no clear proof that the RCA 301 (a system comparable to the 1401) would correct the mechanical difficulty being experienced with the RCA 501 I/O equipment.
4. The 1401 with four 7330 tape stations and 1404 printer would enable EAM work to be processed and eliminate two 408 accounting machine (\$1200 each). There was proof that the 1401 system would eliminate mechanical difficulties inherent in the present RCA 501 I/O equipment.

5. The 132 printing positions available with the 1404 were advantageous for several applications.
6. The 1404 printer would reduce time in preparing checks, Time and Attendance cards, and enable the preparation of employee's statement of earnings and deductions on card forms rather than continuous paper forms.
7. Computability of the 1404 printer with equipment at the Treasury Dept., Disbursing Office and Commerce Dept. 1404.

The only disadvantage shown was the requirement for one programmer for a period of 60 - 90 days to work with the manufacturer in completing format programs for input/output routines on the 1401 system.

Tab C - Letter from IBM to ADPD dtd March 13, 1962.

This letter listed a minimum input/output 1401 configuration totaling \$4495 per month rental. (It should be pointed out that this limited configuration would make it impossible to gain many of the advantages which were listed in the IBM proposal and endorsed by ADPD.)

Tab D - Letter from IBM to ADPS dtd March 21, 1962.

This letter set forth IBM's plan for developing the necessary programs and meeting installation requirements. It recommended that six programmers currently assigned to RCA 501 input/output programs be trained for 1401 programming.

Tab E - Memo For The Record from ADPD dtd 26 March 1962.

This memo reported discussions with RCA personnel advising them of our reasons for selecting the 1401 equipment. These reasons may be summarized as follows:

1. Advantage of the 1404 printer to payroll operations.
2. Established reliability of 1401 card reader and card punch equipment.
3. Special paper savings of \$6,000 per year.
4. Computability of equipment with other government agencies.
5. 1401 Back up equipment in other areas of CIA.

Tab F - Letter of Intent to IBM from Procurement Division, OL
dtd March 29, 1962.

This letter ordered the limited 1401 system. No 1404 equipment was included.

Tab G - Letter from IBM to ADPS dtd July 26, 1962.

This letter advised the Agency of the increased rental of the type 1922 Foreign Tape Adapter from \$925 to \$1810 per month, effective 1 July 1963.



STATINTL

Comptroller

27 August 1962

Chief, Automatic Data Processing Division

Re-evaluation of Off Line Equipment

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1. [REDACTED] received a letter from Mr. Van Gieson of IBM Corporation, dated 26 July 1962 advising him that the monthly rental charge for the type 1922 model 4 Foreign Tape Adapter would be raised to \$1,810. per month effective July 1, 1963. The current monthly rental, which is \$925, was based on preliminary engineering and production estimates. IBM experience has shown that these early estimates were significantly low and warrant adjustment.

STATINTL

2. [REDACTED] advised representatives of IBM orally and in a letter on 15 August 1962 that, in line with their suggestion, we would evaluate the effects of this change in monthly rental on our data processing applications.

This evaluation has been completed and a decision reached to cancel the letter of intent for the IBM 1401 system, and to give RCA a letter of intent for a 301 system.

3. The primary consideration in evaluating the systems was reliability in the card reading and punching equipment and the printer. RCA-301 systems are now available with IBM 1402 Card Reader Punch equipment, the same equipment which we would be getting with the IBM 1401 system. In addition, a printer manufactured by the Analex Corporation has replaced the previous RCA printer. These changes and recent contacts with RCA 301 users such as U. S. Navy Bureau of Weapons and Western Electric Company lead us to believe that a RCA 301 system will correct the previous mechanical difficulties experienced with the RCA 501 input/output equipment and prove to be as reliable as the IBM 1401 system.

4. The IBM 1401 system is compatible with the RCA 501 system through the use of the type 1922 model 4 Foreign Tape Adapter. However our experience indicates that considerable programming is necessary with this interface. On the other hand, little or no programming is necessary when the RCA 301 is used to print reports prepared on the RCA 501.

5. The monthly rental for the IBM 1401 system is \$1,304. greater than the proposed RCA 301 system. Either system will adequately meet our requirements, therefore for economic reasons the RCA 301 has been selected in lieu of the 1401 system.

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Concurrence


Distribution

Orig. & 1 - Comptroller
1 - ADPS

27 August 1962

Office of Logistics
Procurement Division

STATINTL : [REDACTED]

Chief, Automatic Data Processing Division

Letter of Intent for RCA 301 System

It is requested that a letter of intent be forwarded to
RCA, EDP Division, Washington Branch for the following equipment:

RCA 301 SYSTEMS EQUIPMENT COMPLEMENT (With 1402)

<u>Model No.</u>	<u>Description</u>	<u>Qty</u>	<u>Operational Use 200 Hours</u>
303	Basic Processor with 10,000 character high- speed storage	1	\$ 1,803.
333	On-Line Printer	1	721.
316-1	On-Line Printer Control	1	155.
393-1	Tape Adapter	1	330.
369-1	1402 Card Reader Punch Control	1	597.
1402	Card Reader Punch with 3 Point Clutch	1	560. (1) \$ 4,166.00

(1) Operational use 176 hours.

System to be delivered on 17 November 1962 or as soon
thereafter as possible, but no later than 19 January 1963.
Equipment to be operational within one week after delivery.
Exact day of installation to be mutually agreed upon between
CIA and RCA in order to give necessary consideration to
physical installation problems and work schedules.

[REDACTED] STATINTL

Office of Logistics
Procurement Division

27 August 1962

STATINTL

ATTN : [REDACTED]
Chief, Automatic Data Processing Division

Cancellation of Letter of Intent Rental 18, Co 92340-05.

It is requested that the IBM Corporation be advised that letter of intent dated 29 March 1962, (OL/PD-1001) for 1401 system is hereby cancelled. Representatives of IBM Corporation were informally advised by [REDACTED] ADPS, on 27 August 1962, and are aware of the details regarding the decision. Please express regret for any inconvenience to IBM in respect to this action and indicate that IBM representation, in both a sales and technical sense, has been of the highest calibre.

STATINTL

[REDACTED]
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RADIO CORPORATION OF AMERICA
INDUSTRIAL ELECTRONIC PRODUCTS
ELECTRONIC DATA PROCESSING DIVISION
1725 K STREET, N. W.
WASHINGTON 25, D. C.



August 23, 1962

STATINTL [REDACTED] Chief
Management Analysis Section
Central Intelligence Agency
1016 Sixteenth Street, N. W.
Washington, D. C.

STATINTL [REDACTED]

RE: Letter of Proposal - RCA-301 System

This letter of proposal is in response to your request of last week and outlines two hardware configurations which will adequately replace your present RCA-501 System Off-Line Printer, Card Reader and Card Punch.

The attached data has been developed from summary usage figures of the presently installed equipment. We at RCA are most appreciative of the co-operation and assistance given to us by both your staff and operations supervisory personnel.

Two plans are submitted herewith:

(1) Plan "A" which develops a rental cost of \$4,166.00 per month.

(2) Plan "B" which reflects a rental cost of \$3,993.00 per month.

Delivery of the systems described may be scheduled as follows:

	<u>Date of Order</u>	<u>Date of Delivery</u>
Plan A (including 1402)	8-31-62	1-1-63
Plan B (including all RCA equipment)	8-31-62	11-1-62

Delivery of the systems referred to above is predicated timewise on the Date of Order, in terms of week for week slippage.

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Plans A and B differ only in card processing capability. Plan A utilizes the IBM 1402 Card Reader/Punch and Plan B utilizes the RCA Card Reader and Card Punch. Plan A will provide CIA with greater card handling ability than either Plan B or the presently installed off-line equipment.

We have chosen to present both plans because of the small difference in cost (\$173.00 per month) and because of the additional time (18 hours per month) provided with Plan A. We feel that a decision between these two configurations can best be made by you and your associates based on your knowledge of what the Agency's total present and future requirements are.

One of the most significant advantages of the proposed system, in your consideration of replacing the present off-line hardware, is that no detail programming effort would be required for printing the many output report tapes from the RCA-501 system.

Though this proposal is obviously aimed at replacement of the present off-line hardware, it must be noted that the proposed RCA-301 System is fully capable of operating as a separate computer complex.

The expansion possibilities of the RCA-301 System are outstanding. For example, your proposed system may be enhanced by:

- (1) Additional memory up to 40,000 characters.
- (2) Up to 176,000,000 characters of random access on the Data Disc File.
- (3) The economical 3-, 4-, or 6-Pack of High-Data Tape Group (Model 381, 10KC, Tape Stations).
- (4) Up to 12 Model 581 Tape Stations (33KC)
- (5) Model 354 or 355 Scientific Processor with Floating Point Arithmetic, 20,000 and 40,000 character memories respectively.

Our Education Director feels that due to the advanced knowledge of the analysts and programmers in your RCA-501 operations area, and the proven compatibility of the RCA-301/501 Systems, a three day accelerated RCA-301 course should be adequate to initially orient your personnel. Further, our Education Department solicits your interest in the range of courses available from management seminars (2 to 3 days) through systems analysis, programming and operator training. A copy of the current local schedule for the third quarter, 1962 is enclosed for your convenience.

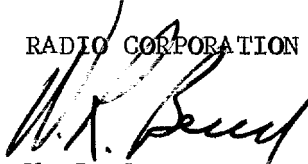
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Again, we want to extend our thanks for the opportunity to submit this Letter of Proposal. It is our express wish that we continue to serve you well and share in your future successes.

Very truly yours,

RADIO CORPORATION OF AMERICA



W. R. Berry, Manager
Washington Branch

WRB:JW:smc

EQUIPMENT COST SHEET

		<u>Sales Price</u>	<u>Plan A 200 Hours</u>	<u>Plan B 200 Hours</u>
303	Processor with 10K Storage	\$89,400.00	\$1,803.00	\$1,803.00
323	Card Reader	\$15,850.00		\$ 361.00
334	Card Punch	\$ 8,900.00		\$ 206.00
333	On-Line Printer	\$32,200.00	\$ 721.00	\$ 721.00
314-1R	Card Reader Control	\$ 6,900.00		\$ 134.00
315	Card Punch Control	\$13,750.00		\$ 283.00
316-1	On-Line Printer Control	\$ 7,850.00	\$ 155.00	\$ 155.00
393-1	581 Adapter	\$15,900.00	\$ 330.00	\$ 330.00
369-1	1402 Card Reader-Punch Control	\$30,200.00	\$ 597.00	
1402	Card Reader-Punch, includes three-point clutch	\$24,800.00	*\$ 560.00	
			<u> </u>	<u> </u>
			<u>*\$4,166.00</u>	<u>\$3,993.00</u>

*Reference IBM GSA Contract - 176 Hours

P L A N A

I. PRINTING

(Same as B-I comparison)

<u>Present:</u>	Monthly Average (12 Months)	109.0 Hours
<u>Proposed:</u>	Monthly Average	87.0 Hours

II. READING PUNCH CARDS

<u>Present:</u>	Monthly Average (12 Months) RCA-501 System Model #527	27.0 Hours
<u>Assumption:</u>	27 Hours x 60 minutes x 400 cpm = 648,000 cards per month.	
<u>Proposed:</u>	Monthly Average IBM 1402 Card Reader Punch 648,000 cards ÷ 60 minutes x 800 cpm = 13.5 hours	13.5 Hours

III. PUNCHING CARDS

<u>Present:</u>	Monthly Average (12 Months) RCA-501 System Model #538	15.0 Hours
<u>Assumption:</u>	15 hours x 60 minutes x 150 cpm = 135,000 cards per month.	
<u>Proposed:</u>	Monthly Average IBM 1402 Card Reader Punch 135,000 cards ÷ 60 minutes x 250 cpm = 9.0 hours	9.0 Hours

P L A N B

I. PRINTING

Present: Monthly Average (12 Months) 109.0 Hours
RCA-501 System Model #535 EMP

Assumption: 109.0 Hours x 60 minutes x 600 lpm = 3,924,000
lines per month

Proposed: Monthly Average 87.0 Hours
RCA-301 System Model #333 OLP
Though the Model #333 is rated up to 1,000 lpm
in the synchronous mode, it is felt that we
shall go to the asynchronous mode in some in-
stances. This, plus the normal amount of paper
advance, page change and line spacing delays,
indicates anticipated speed of 750 lpm rate for
581 tape to print.

Hence:

$3,924,000 \text{ lines per month} \div 60 \text{ minutes} \times 750 \text{ lpm}$
 $= 87.0 \text{ Hours}$

II. READING PUNCH CARDS

Present: Monthly Average (12 Months) 27.0 Hours
RCA-501 System Model #527

Assumption: 27 Hours x 60 minutes x 400 cpm = 648,000 cards
per month

Proposed: Monthly Average 18.0 Hours
RCA-301 System Model #323
 $648,000 \text{ cards} \div 60 \text{ minutes} \times 600 \text{ cpm} = 18.0$
Hours

III. PUNCHING CARDS

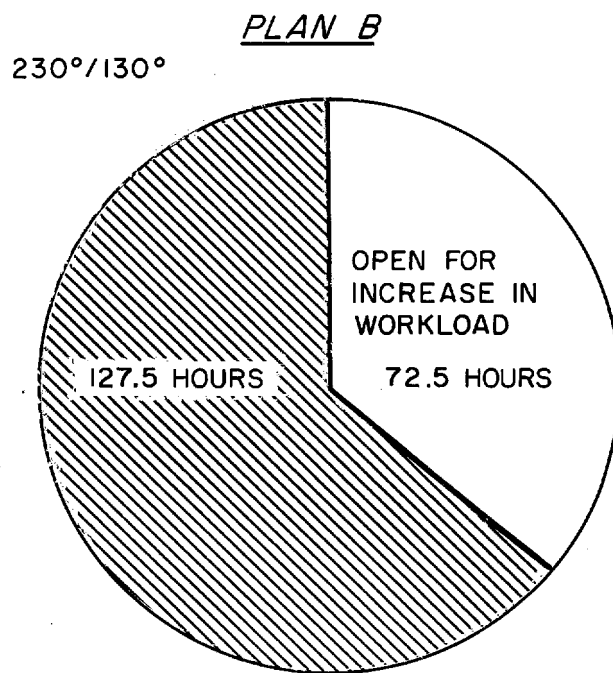
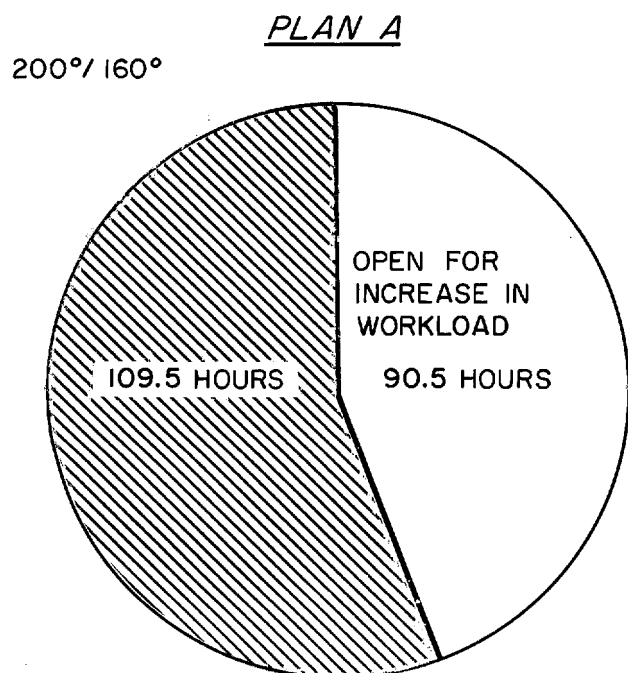
Present: Monthly Average (12 Months) 15.0 Hours
RCA System Model #538

Assumption: 15 Hours x 60 minutes x 150 cpm = 135,000 cards
per month

Proposed: Monthly Average - RCA-301 System Model #334 22.5 Hours
 $135,000 \text{ cards} \div 60 \text{ minutes} \times 100 \text{ cpm} = 22.5$
Hours

SUMMARY OF HOURS AND DOLLARS

	PLAN A - 200 HOUR OPTION		PLAN B - 200 HOUR OPTION	
	HOURS	DOLLARS	HOURS	DOLLARS
PRINT	87.0	\$ 876.00	87.0	\$ 876.00
READ	13.5	\$ 1,157.00	18.0	\$ 495.00
PUNCH	9.0		22.5	\$ 489.00
58I TAPE ADAPTER		\$ 330.00		\$ 330.00
RCA 30I PROCESSOR		\$ 1,803.00		\$ 1,803.00
	109.5	\$ 4,166.00	127.5	\$ 3,993.00

RCA - 30I SYSTEM USAGE

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18 October 1962

PROPOSED WORKING RELATIONSHIPS BETWEEN ADPD AND ADPS

1. As a means of providing a more specific definition of the working relationships between ADPD and ADPS, the following procedures are recommended:

a. **Overall Objectives**

The overall objective should be to establish a team-like relationship which permits the most effective utilization of personnel resources of ADPS and ADPD for the development of optimized ADP systems within the Comptroller and DD/S areas.

b. **Establishment of ADPS Tasks**

ADPD will furnish copies of all requests for additional machine reports to ADPS. Similarly, ADPS will furnish a report of all areas in which system studies have been requested or are being performed. When a significant development effort for new procedures is required, a task definition will be established by ADPS to show specific system objectives, personnel requirements, priority and completion schedules.

c. **Assignment of Personnel**

For each defined task, ADPD and ADPS will designate specific personnel to work under the guidance of ADPS.

d. **Activity of Task Personnel**

For each task, assigned personnel will engage in the activities of:

- (1) Defining the problem and objectives
- (2) Collecting source documents
- (3) Flow charting existing manual or machine processes
- (4) Collecting samples of current reporting requirements.

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- (5) Analysing collected data.
- (6) Designing necessary forms and reports for proposed systems.
- (7) Making ABP recommendations for approval of the consumer, ABPD, and ABPS.

a. Responsibilities

ABPS shall be responsible for determination of consumer requirements and definition of basic machine techniques necessary to meet these requirements. Designated personnel from ABPS and ABPD will collaborate in preparation of machine procedures and programs. ABPS personnel will be responsible for liaison with consumers to assure that data is properly prepared for input to ABPD and that ABP end-products meet consumer requirements. ABPD will be responsible for production in accordance with agreed upon schedules and priorities.

f. Reporting Procedures

- (1) ABPS will prepare a monthly status report for each task.
- (2) ABPD will prepare a monthly report of machine time by job and machine type.
- (3) ABPD will prepare a monthly report of machine utilization by type of equipment and class of time.

g. Review Procedures

A regular weekly meeting will be scheduled by the Chiefs of ABPD and ABPS/SD for coordination and review purposes. Specific tasks will be scheduled for discussion and review. Appropriate personnel from these task groups will participate in these meetings.

2. After review and concurrence with the proposed working relationships, a notification consisting of appropriate excerpts from this paper should be prepared and sent to the Comptroller and BD/S components.

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